

NEW SPECIES OF PLANTS FROM GUATEMALA (a)

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The following new species have been detected in a large collection recently made in Guatemala by Dr. Alexander F. Skutch. Several additional new species belonging to critical groups will be described in a future paper.

CHUSQUEA LANCEOLATA Hitchc., sp. nov. Culmus erectus, 10 m. altus, in diametro ca. 6 cm.; vaginae internodiis breviores, ore nudo; laminae planae, lanceolatae, basi rotundatae, acuminatae, supra glabrae, subtus pubescentes, 12-15 cm longae, 1.5-2.5 cm. latae; panícula ca. 15 cm. longa, ramis 5-7, adscendentibus vel patulis, ramulis brevibus adpressis; spiculae 6-9 mm. longae, glabrae; glumae 2, obtusae, plus minusve inaequales, 0.5-1.5 mm. longae; lemmata sterilia 2, dimidiam spiculam aequantia, acuta vel acuminata; lemma fertile acuminatum, minute apiculatum.

Main culms erect, about 10 meters tall, 6 cm. thick at base; flowering branches leafy, 30 to 40 cm. long, scaberulous, the sheaths slightly roughened, longer than the internodes, naked at summit; ligule firm, slightly dentate, 1 mm. long; blades of the flowering branches lanceolate, flat, rather thin, rounded into a short pubescent petiole 2 to 4 mm. long, acuminate to a fine point, scabrous on the margins, rather strongly tessellate-veined, pubescent beneath, glabrous but slightly roughened on the upper surface, 12 to 15 cm. long, 1.5 to 2.5 cm. wide, the main veins 5 or 6 pairs; panicle more or less inclosed in the uppermost sheath, about 15 cm. long, the main branches 5 to 7, ascending or spreading, floriferous from near the base, the lower 2.5 cm. distant, 7 to 9 cm. long, the axis and branches angled, scabrous-pubescent; spikelets 6 to 9 mm. long, purplish, imbricate on short appressed branches, the ultimate or lateral pedicels mostly less than 1 mm. long; glumes rounded, obtuse, more or less unequal, glabrous, the first 0.5-1 mm. long, the second somewhat longer to twice as long; sterile lemmas about equal, about half as long as the spikelet, acute or acuminate, glabrous except the scaberulous keels, 3- to 5-nerved; fertile lemma about 9-nerved, acuminate, glabrous, minutely apiculate; palea about as long as the lemma.

Type in the U. S. National Herbarium, no. 1,587,761, collected at Santa Elena, Dept. Chimaltenango, Guatemala, alt. 3000 meters, in cypress forest, December 24, 1933, by A. F. Skutch (No. 768).

The species is known only from the type collection. The type specimen consists of two flowering branches 35 to 40 cm. long, with 3 or 4 leaves and a terminal inflorescence. The label gives the height and thickness of the main culm.

PILEA QUERCIFOLIA Killip, sp. nov. Herba monoica, glabra; caules erecti, basi radicales, simplices vel apicem versus ramosi; folia inferioria reducta, decidua, superiora opposita, aequalia, ovata, acuminata, basi rotundata vel auriculata vel interdum obliqua, 3-nervata, membranacea, subtus pallida, grosse serrato-crenata; cymae masculae 10-12-florae pedunculatae, pedunculis filiformibus, floribus pedicellatis, segmentis oblongo-lanceolatis; cymae foeminae pedunculatae, floris segmentis inaequalibus; achaenia lanceolato-ovata, compressa, laevia.

Plant glabrous throughout; stem erect, rooting at the basal nodes, about 30 cm. high, simple or branched near the apex, the lower leaves much reduced and soon deciduous, the lower internodes elongate, up to 5 cm. long; stipules oblong-lanceolate, 4 to 5 mm. long, 2 to 2.5 mm. wide, subacute, soon deciduous; leaves of a node subequal and similar, the petioles 0.7 to 3.5 cm. long, the blades ovate, 4 to 12 cm. long, 2 to 5 cm. wide, acuminate at apex, at base rounded or subauricular, or sometimes oblique, coarsely serrate-dentate from apex to base (teeth ascending, rounded), 3-nerved (lateral nerves extending to the upper third of the blade), membranous, pale beneath, bearing obscure linear cystoliths on both surfaces; plants monoecious, the cymes unisexual; staminate cymes with filiform peduncles 2 to 4 cm. long, 10- to 12-flowered, 8 to 10 mm. wide, the flowers pedicellate, subglobose in bud and 2 to 2.5 mm. in diameter, the segments oblong-lanceolate, about 1 mm. long, dark green, pale at base; pistillate cymes borne at the same axils with the staminate, on peduncles subequal to or slightly shorter than those of the staminate, 7 to 8 mm. wide, the segments 3, markedly unequal, the middle one about 0.8 mm. long, the lateral ones barely 0.2 mm. long; achenes lance-ovate, about 1 mm. long, strongly flattened, obscurely costate on one face, smooth.

Type in the U. S. National Herbarium, no. 1,585,999, collected at Chichavac, Dept. Chimaltenango, Guatemala, alt. 2400 to 2700 meters, in a deep ravine in dense forest, August 19, 1933, by A. F. Skutch (No. 559).

This species is related to *P. gracilipes* Killip, a species common in Costa Rica and western Panama, the two having very similar floral characters. The proposed species is, however, readily distinguished by the larger, proportionately broader leaves, which have much larger teeth, the tooth being, indeed, more pronounced than in any other species

with which the writer is familiar. In general outline the leaves resemble those of Quercus prinus.

DALEA DISPAR Morton, sp. nov. Frutex usque ad 1.8 m. altus, diffuse ramosus; caules hornotini virides, subteretes, 2-3.5 mm. diam., glabri, plus minusve longitudinaliter striati; folia alterna, imparipinnata, stipulis lineari-subulatis, usque ad 10 mm. longis, pubescentibus, petiolo ca. 1.5 mm. longo, viridi, fere glabri, foliolis ca. 7-jugis, oblongis, ca 18 mm. longis et 6 mm. latis, oppositis vel alternis, apice mucronatis, basi obtusis, membranaceis, pallido viridibus, glabris, subtus glanduloso-punctatis, stipellatis, stipellis minutissimis, glabris; inflorescentia racemosa, anguste cylindrica usque ad 17 cm. longa, floribus dense confertis, adscendentibus, pedicellatis, pedicellis brevissimis, ca. 0.6 mm. longis, crassis, apice articulatis, bracteis concavis, lanceolatis, apice longe subulatis, glabris; calycis tubus anguste campanulatus, 3-3.5 mm. longus, 10-costatus, perspicue glanduloso-punctatus, villosus, lobis subulatis, viridibus, ca. 2.2 mm. longis, villosis, margine subspinulosus; flores lutei, vetustiores purpurascens; vexillum longe unguiculatum, ungue usque ad 7 mm. longo, limbo suborbiculari, ca. 4 mm. longo et 3.5 mm. lato, apice obtuso, basi cuneato, non appendiculato, dorso basi villosus; alae longe unguiculatae, ungue tubo stamineo basi adnato, limbo oblongo, ca. 3 mm. longo, valde obliquo, basi uno latere unguiculato; carinae petala alis similia, ca. 4.5 mm. longa, parum connata, apice et basi libera, unguibus liberis; stamina 9 in vaginam connata, vexillari deficiente; ovarium compressum, hirsutum; stylus villosus.

Type in the U. S. National Herbarium, no. 1,494,921, collected at Chichavac, Dept. Chimaltenango, Guatemala, alt. 2400-2700 meters, February 18, 1933, by A. F. Skutch (No. 259). An additional specimen was collected at the same locality, December 2, 1933 (Skutch 725).

This is apparently an isolated species without a close relative, at least among the North American species. In Rydberg's treatment in the North American Flora it would seem to be closest to the Section Leucostomae, differing essentially nevertheless from all species of that section.

GERANIUM PULCHRUM Morton, sp. nov. Sect. Incanoidea? Herba perennis; caules ex radice numerosi, decumbentes, nodis saepe radicantes, graciles, 1-1.5 mm. diam., angulati, strigillosi (pilis retrorsis) vel demum glabrati; folia opposita, radicalia longissime petiolata, petiolo usque ad 14 cm. longo, laminam 3-7-plo longiore, tenui, strigilloso, stipulis lanceolatis, ca. 5 mm. longis, brunneo-scariosis; lamina membranacea, ambitu plus minusve deltoidea, usque ad

2.7 cm. longa et 4.3 cm. lata, fere usque ad basin quinque-partita, segmentis pinnatifidis, ultimis lanceolatis, acutis, pallido-virides, supra pilis sparsis hyalinis rectis acutissimis minutis, sursum spectantibus diassita, subtus hirsutula; pedunculus axillaris, longus (usque ad 10 cm.), pubescens, pilis patentibus vel subadpressis, interdum glandulosis, biflorus, pedicellis usque ad 2.5 cm. longis, glanduloso-pilosis, bracteis subulatis, ca. 5.5 mm. longis; calycis lobi ca. 6.5 mm. longi, ovati, virides vel purpureo-tincti, subulato-mucronati, trinervii, extus strigillosi, pilis longioribus patulis intermixtis; petala lilacina, purpureo-venosa, oblanceolata, ca. 13 mm. longa, 4 mm. lata, apice rotundata, intus basi hirsuta; stamina basi dilatata, ciliata; styli et ovaria pubescentes; fructus deest.

Type in the U. S. National Herbarium, no. 1,587,712, collected at Santa Elena, Dept. Chimaltenango, Guatemala, alt. about 2850 meters, November 25, 1933, by A. F. Skutch (No. 709).

The species is related apparently to G. Palmeri Rose, of central Mexico, but that species has much broader petals (over 10 mm. in width) and longer pedicels, these strigillose rather than glandular-pilose. Furthermore, the stems of G. Palmeri are not prostrate and do not root at the nodes. The latter character seems to place G. pulchrum in Knuth's section Diffusa, although it bears little resemblance to the other species, all South American. It is more probably to be placed in the section Incanoidea.

BUDDLEIA SKUTCHII Morton, sp. nov. Caules teretes, ca. 5 mm. diametro, stellato-puberuli, demum glabrati; folia opposita, stipulata, stipulis connatis, semiorbicularibus, revolutis, crassiusculis, petiolata, petiolo usque ad 27 mm. longo, dense stellato-puberulo, supra canaliculato, lamina oblongo-lanceolata, usque ad 16 cm. longa et 5.5 cm. lata, coriacea, integra, apice acuminata, basi cuneata, obliqua, supra viridi, sparse stellato-puberula, mox glabrata, venis impressis, subtus dense stellato-tomentosa, pilis minutis, albidis vel aureis, venis elevatis, reticulatis; capitulae ca. 16-florae, globosae, densae, 3-5 mm. diametro, in paniculam terminalem sessilem 13 cm. longam et 16 cm. latam dispositae; bractee minutae, lineares, stellato-tomentosae; flores aurei, sessiles; calycis tubus ca. 0.5 mm. longus, lobis ca. 1 mm. longis, deltoideis, extus stellato-tomentosis, apice acutis; corolla aurea, tubo turbinato, ca. 1.5 mm. longo, glabro, lobis deltoideis, ca. 1.5 mm. longis, obtusis, subrectis, extus stellato-puberulis, intus sparse pubescentibus; stamina 4, fauce affixa, filamentis glabris, ca. 0.5 mm. longis, antheris oblongis, ca. 0.5 mm. longis, introrsis, loculis distinctis, parallelis; ovarium apice

pubescens; stylus indivisus, clavatus; fructus deest.

Type in the U. S. National Herbarium, no. 1,494,931, collected at Chichavac, Dept. Chimaltenango, Guatemala, alt. 2400-2700 meters, February 2, 1933, by A. F. Skutch (No. 269). An additional specimen was collected at the same place in November, 1930 (Skutch 54).

The species is distinguished at once from all other North American species of Buddleia by its small pedunculate heads, disposed in large terminal sessile panicles. The large persistent stipules and entire leaves also distinguish B. Skutchii from most of the other species.

SOLENOPHORA PIRANA Morton, sp. nov. Frutex 1.8-2.4 m. altus; caules fistulosi, ca. 8 mm. diam., subquadrangulati, villosi, pilis hyalinis, multiseptatis, flaccidis, demum subglabrati; folia opposita, longepetiolata, petiola usque ad 10.5 cm. longo, villosulo, lamina elliptica, magna, usque ad 30 cm. longa et 14 cm. lata, duplicato-dentata, apice breviter acuminata, basi cuneata, inaequali, tenuiter membranacea, supra viridi, pilis satis sparsis multiseptatis obsiti subtus pallidiores, fere glabra, venis albidis perspicue reticulatis pilis paucis minutis instructis; inflorescentia axillaris, subumbellata, 3-5-flora, pedunculo communi elongato, usque ad 8 cm. longo, subglabro, bracteis oblongis ca. 16 mm. longis, pedicellis usque ad 37 mm. longis, glabratibus; calycis tubus (pars adnatus) turbinatus, ca. 5 mm. longus, villosus, pars liberus subcampanulatus, ca. 11 mm. longus, ca. 12.5 mm. latus, subglaber, viridis, apice obliquus, lobis inconspicuis, deltoideis, ca. 4 mm. longis, 6 mm. basi latis, perspicue denticulatis, apice acutis; corolla flava, 4-4.5 cm. longa, anguste cylindrica, erecta, basi ecalcarata, 8 mm. lata, sursum paullulum ventricosa, villosa, intus villosula, limbo vix 10 mm. diametro, lobis parvis, subaequalibus, erectis, ca. 5 mm. latis, 2 mm. longis, immaculatis, apice fere truncatis, integris; stamina 4, didynama, filamentis liguliformibus, glabris, rectis, corollae basi adnatis, antheris connatis, exsertis, loculis oblongis, discretis; staminodium evolutum; ovarium omnino inferum; stylus rectus, pubescens, stigmatibus dilatato, concavo; disci glandulae 5, irregulares, fere distinctae, pubescentes; fructus deest.

Type in the U. S. National Herbarium, nos. 1,587,684 and 1,587,685, collected near Chichavac, Dept. Chimaltenango, Guatemala, alt. about 2550 meters, along a stream in a deep ravine, November 11, 1933, by A. F. Skutch (No. 680). An additional specimen was collected at Santa Elena, Dept. Chimaltenango, Guatemala, June 2, 1933 (Skutch 346).

The species is named at the request of Dr. Skutch in honor of Señor Don Axel Pira, his host in Guatemala.

The species is most closely related to S. insignia (Mart. & Gal.) Hanst., a Mexican species known only from the original collection. The description by Martens & Galeotti is short, but a more complete one is given by Fenzl (b). S. Pirana differs in having the disk composed of five rather than two glands and the corolla pilosulous, rather than glabrous within.

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(b) In Otto & Dietr. Allg. Gartenz. 16: 306. 1848.